UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

ROVI GUIDES, INC., ROVI TECHNOLOGIES CORP., and VEVEO, INC., Plaintiffs, – against – COMCAST CORPORATION, COMCAST CABLE COMMUNICATIONS, LLC, COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC, COMCAST OF HOUSTON, LLC, COMCAST BUSINESS COMMUNICATIONS, LLC, COMCAST HOLDINGS CORPORATION, COMCAST SHARED SERVICES, LLC, ARRIS INTERNATIONAL PLC, ARRIS GROUP INC., ARRIS TECHNOLOGY, INC., ARRIS ENTERPRISES LLC, ARRIS SOLUTIONS, INC., PACE LTD., PACE AMERICAS HOLDINGS, INC., PACE AMERICAS INVESTMENTS, LLC, PACE AMERICAS, LLC, TECHNICOLOR SA, TECHNICOLOR USA, INC., and TECHNICOLOR CONNECTED HOME USA LLC, Defendants.	Civil Action No. 1:16-cv-09278-JPO

DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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I.   INTRODUCTION

Claim language is not read in a vacuum. It must be interpreted in the context of the

patent's intrinsic evidence, including the claims, the specification, and the prosecution history.

Trs. of Columbia Univ. in City of N.Y. v. Symantec Corp., 811 F.3d 1359, 1363 (Fed. Cir. 2016);

Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 711 F.3d 1348, 1360 (Fed. Cir.

2013). The Federal Circuit has expressly rejected any presumption that a claim term has a "plain

and ordinary" meaning separate from a patent's disclosure. *Trs. of Columbia Univ.*, 811 F.3d at

1363.

There are a number of ways in which the intrinsic evidence may inform the construction

of a term or limit a claim. As is relevant in this case, for example, statements that describe "the

invention" limit the claims to that which was purportedly invented. *Regents of Univ. of Minn. v.

AGA Med. Corp.*, 717 F.3d 929, 936 (Fed. Cir. 2013); *Honeywell Int'l, Inc. v. ITT Indus., Inc.*,

452 F.3d 1312, 1318 (Fed. Cir. 2006) (where a patentee describes the features of "'this

invention' or 'the present invention' . . . the public is entitled to take the patentee at his word").

A claim term is also limited where "the specification, including the figures, consistently and

exclusively disclose only one embodiment and that is clearly what the inventors of the patent . . .

conceived of." *Am. Calcar, Inc. v. Am. Honda Motor Co.*, 651 F.3d 1318, 1337 (Fed. Cir. 2011)

(quoting *Hologic, Inc. v. SenoRx, Inc.*, 639 F.3d 1329, 1338 (Fed. Cir. 2011) (internal quotation

marks omitted)). And "[i]f the specification reveals a special definition given to a claim term by

the patentee that differs from the meaning it would otherwise possess[,] . . . the inventor's

lexicography governs." *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1195 (Fed. Cir. 2013).

Finally, the prosecution history must be consulted because "[c]laims may not be construed one

way in order to obtain their allowance and in a different way against accused infringers."

Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed. Cir. 1995).

Rovi disregards these fundamental principles by attempting to divorce the disputed terms from the context of the particular patent in which they appear. It does so by ignoring, confusing, and mischaracterizing the intrinsic evidence, and by citing to irrelevant extrinsic evidence and unrelated patents. Further, for the majority of terms, Rovi simply proposes "plain and ordinary meaning" so that it may assign whatever meaning it chooses in front of the fact-finder at trial, which is not permissible. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) (holding that "'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute").

This is a complex case in which Rovi has chosen to assert eight patents in a number of different fields, including interactive program guides ("IPGs"), the remote control of devices using smartphones, and content searching. The law requires that each claim term be construed in view of the particular patent in which it appears. Accordingly, Comcast respectfully requests that the Court adopt its constructions, which properly reflect the meaning each disputed term would have had to one of ordinary skill in the art at the time of the invention when read in the context of the applicable patent's claims, specification, and prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315-17 (Fed. Cir. 2005) (en banc).

II.   U.S. PATENT NO. 8,713,595 (THE '595 PATENT)[1]

The '595 Patent claims priority through a chain of applications to a parent application filed in 1995. It issued in 2014, nine years after it was filed, almost 20 years after its priority application, and only three years prior to its expiration in September 2017. '595 Pat. at p. 1. The

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[1] The parties' competing constructions are set forth in full in the Second Amended Joint Claim Terms Chart (ECF No. 281-1). Defendants generally address the patents in the order they appear in, and refer to the term numbers used in, that chart. The asserted patents are attached as Exs. 1-8 to the accompanying Declaration of David J. Lisson ("Lisson Decl.").

specification makes clear that the patent's "invention" relates to "interactive program guide

systems and related processes that can automatically tune a television, or program a video

cassette recorder (VCR), based on program selections made from program schedule information

displayed on a television or other suitable video monitor." '595 Pat. at 1:18-23; *see also id.* at

4:10-14. The claims generally purport to describe a method or apparatus using an interactive

program guide to control two tuners to allow a user to record and view two different programs at

the same time. Notably, the *only* disclosure of a two-tuner system in the 30-column specification

is one sentence that reads, "[t]he invention also contemplates the use of a set-top box (not

shown) that includes two tuners—one each for the VCR and the display." '595 Pat. at 8:20-24.

Rovi attempts to broaden its claims beyond the "invention" set forth in this scant disclosure in

order to capture accused systems that do not use a VCR, do not use multiple tuners, and do not

have an IPG on a set-top box.

A.   "Video Recorder" (Term 4)

The term "video recorder" does not appear in the specification of the '595 Patent, and the

only device that is disclosed that is capable of recording video is a "video cassette recorder" or

VCR. Indeed, the specification clearly and repeatedly states that the "invention" relates to

programming a VCR, and the only disclosure of the claimed two-tuner system also states that

"the invention" contemplates the use of one such tuner "for the VCR." '595 Pat. at 1:18-23,

4:10-14, 8:20-24. These statements delineate the boundaries of the claimed invention and limit

the claims. *Regents of Univ. of Minn.*, 717 F.3d at 936; *Honeywell*, 452 F.3d at 1318; *On

Demand Mach. Corp. v. Ingram Indus.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006).

The term VCR appears more than 20 times in the patent and every single embodiment

describes using a VCR. *See, e.g.*, '595 Pat. at Abstract ("program a VCR"), Fig. 2 (showing a

"VCR"), Fig. 11 (element 616 showing "activate VCR"), 1:21 ("program a video cassette

recorder (VCR)"), 1:60-61 ("VCR recording"), 2:28, 3:9, 4:12, 8:5-23 ("The interactive program

guide may also be used to program a video cassette recorder (VCR) . . . ."), 19:61-64, 22:49.

Rovi does not, and cannot, point to a single video recorder other than a VCR. That is not

surprising because the problem the patent purports to solve was specific to VCRs: "as the

number of channels provided by telecasting services increases, the need for a system and process

that simplifies the notoriously difficult task of scheduling programs *for VCR recording* becomes

more pressing." *Id.* at 1:57-61 (emphasis added). Where "every single embodiment in the ['595]

patent's drawings and its written description is made up of [a VCR]," and the patent describes

the "invention" as having a VCR, "this description limits the scope of the invention." *Regents of*

Univ. of Minn., 717 F.3d at 936; *see also Am. Calcar*, 651 F.3d at 1337; *Honeywell*, 452 F.3d at

1318.[2]

In proposing "plain and ordinary meaning" for this term, Rovi seeks to encompass

recording technologies such as digital video recording ("DVR") that were not described, let

alone contemplated, by the inventors when the specification was filed in 1995.[3] But if the claims

were broad enough to cover DVR technology, then they would be invalid for lack of written

description. To satisfy the written description requirement, a patent specification must "set forth

enough detail to allow a person of ordinary skill in the art to understand what is claimed and to

recognize that the inventor invented what is claimed." *Univ. of Rochester v. G.D. Searle & Co.*,

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[2] Even the case Rovi cites for the proposition that there is a heavy presumption that a claim term carries its ordinary and customary meaning makes clear that "the 'ordinary meaning' of a claim term is its meaning to the ordinary artisan *after reading the entire patent*." *Mass. Inst. of Tech. v. Shire Pharms., Inc.*, 839 F.3d 1111, 1118 (Fed. Cir. 2016) (emphasis added) (internal quotation marks omitted).

[3] The unpublished opinion Rovi cites for the proposition that the Court need not construe a number of terms, including this one, is inapposite because the parties in that case *agreed to the scope of the claim*, so there was no dispute. *Kowa Co. v. Aurobindo Pharma Ltd.*, 2015 WL 6741719, at *2 (S.D.N.Y. Nov. 4, 2015) ("Here, the parties agree . . . ."); Rovi Br. at 15-16.

358 F.3d 916, 928 (Fed. Cir. 2004). Here, the specification does the opposite, making clear that

"the invention" applies to VCRs. Accordingly, construing the term "video recorder" to be

broader than a "video cassette recorder" would render the claims invalid and cannot be correct.

B.   "Tuner" (Term 1)

As with "video recorder," Rovi seeks to broaden its claims to capture technology the

inventors did not purport to invent by leaving the term "tuner" unconstrued. Many of the

accused products include "full-band capture" technology that is fundamentally different from

what one of ordinary skill would have considered a "tuner" in 1995.

The '595 specification supports Defendants' proposed construction because it repeatedly

describes the user making selections that "caus[e] the tuning circuitry . . . to tune to the

channel . . . ." '595 Pat. at 22:44-50; *see also id.* at 4:37-41, 7:43-46, 19:56-60. Further, Rovi's

expert, Dr. Shamos, seems to agree that a person of skill in the art would understand "tuner" as

used in the '595 Patent to mean an electronic circuit that selectively receives a signal out of a

plurality of signals. Dr. Shamos even adopts Defendants' construction as the beginning of his

alternative proposal. Rovi Br. Ex. G (Shamos Decl.) at ¶ 7. And Rovi's expert in the recent

International Trade Commission ("ITC") action offered extrinsic evidence on the plain and

ordinary meaning of "tuner" that conforms with Defendants' proposal. *See* Lisson Decl. Ex. 9

(Witness Statement of Ravin Balakrishnan excerpt) at Q/A 200-01.

In an effort to imply that Defendants are being inconsistent, Rovi focuses on Defendants'

proposed construction of "tuner" for the unrelated patent that Rovi asserts in the ITC. Rovi Br.

at 4. Specifically, Rovi argues in the alternative that any construction should include the phrase

"and convert [RF signals] into audio and video signals" based on Defendants' proposed

construction of U.S. Patent No. 8,621,512 (the '512 Patent). *Id.* However, Defendants included

that language in the ITC because of specific disclosures in the '512 Patent that do not appear in

the '595 Patent. *See* Lisson Decl. Ex. 10 ('512 Patent) at 6:19-23. Including the language of

converting the RF channel to an audio/video signal would improperly import disclosures from

the '512 Patent into the unrelated '595 Patent. Indeed, the '595 Patent says nothing about

converting RF signals into video or audio signals, either in the passages Rovi cites or elsewhere.

See '595 Pat. at 7:20-23 (nowhere mentioning video or audio signals); *id.* at 4:37-41 (discussing

only tuning). In any event, the Initial Determination did not include that language in its

construction, and it defined "tuner" as "an electronic circuit used to selectively receive a desired

frequency out of an entire frequency band," which is consistent with Defendants' proposal.

Lisson Decl. Ex. 11 (Initial Determination excerpts) at 411.

> **C.   "Interactive Television Program Guide" (Term 2); "User Equipment Having an Interactive Television Program Guide Implemented Thereon" (Term 6); "Receiv[ing] . . . Program Schedule Information" (Term 3)**

In general, there are two types of systems that are accused of infringement, an older

"Legacy" system and a newer "X1" system. In the Legacy system, an IPG runs on the set-top

box. In the newer X1 system, however, there is no guide software on the set-top box. Instead,

there is a remote server in the "cloud" (a collection of computer facilities across the United

States), known as the "XRE" server, which contains the guide software. Furthermore, in the X1

system, there is another entirely different server in the cloud, known as the DVR scheduler,

which is responsible for DVR recordings and causes recordings to be made. Rovi seeks to

broaden numerous terms to capture the X1 system and its cloud-based technology, which are

fundamentally different from anything disclosed in the '595 Patent.

First, Rovi seeks to broaden the concept of an "interactive program guide" by disputing

that a guide is an "application." Rovi Br. at 6. However, the disclosure of the '595 Patent

consistently describes the guide as stored and executed at the user site, preferably on a set-top

box.[4] For example, the Abstract explains that "the interactive program guide is preferably

implemented using a microprocessor-controlled set-top box that is coupled to the viewer's

television set." '595 Pat. at Abstract; *see also id.* at 4:17-20 ("The set-top box receives program

schedule information and software from a headend telecasting center."), 5:46-48 ("FIG. 2 is a

block diagram of a set-top box suitable for implementing the interactive program guide of the

present invention."), 7:15-8:46 (describing FIG. 2 and user equipment devices, including

discussion of how the user device stores and runs the guide application). And asserted

independent claim 17 refers to the guide as embodied in "machine program logic," i.e., a

software application. *Id.* at 32:43. Thus, although the parties generally agree that an "interactive

program guide" enables certain functions,[5] that does not sufficiently define the term because an

IPG is the application that provides that functionality. *See United Video Props. v. Amazon.com,*

Inc., 2012 WL 2370318, at *17 (D. Del. June 22, 2012), *aff'd*, 561 F. App'x 914, 919 (Fed. Cir.

2014) (construing "interactive program guide" in patents asserted by Rovi's corporate

predecessor as "an application that" performs certain functions).

Second, Rovi seeks to broaden the term "user equipment having an IPG implemented

thereon" by disputing that the phrase refers to equipment at a user site that stores and runs an

IPG. But again, every embodiment in the '595 Patent describes a device that stores and runs an

IPG application at a user site and not at the headend or data center, which is discussed in a

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[4] Other than stating its disagreement with Defendants' construction, Rovi's brief virtually
ignores "interactive television program guide" in the '595 Patent and only addresses the
unrelated '666 Patent.
[5] While the parties use different words to describe the functions, there does not appear to be a
substantive difference in the parties' constructions following "guide that allows . . ." and "an
application that causes . . .". Accordingly, Defendants would agree to a construction of
"interactive television program guide" in the '595 Patent that reads "an application that allows
user navigation through and interaction with program listings and causes display of program
information on user television equipment based on user commands." *See infra* Part II.C.

different section of the specification. *See, e.g.*, '595 Pat. at Abstract, 4:17-19, 5:46-48, 7:15-8:46. The patent's disclosure (and common sense) belie Rovi's suggestion that remote servers constitute "user equipment."

Third, Rovi appears to assert that a set-top box need not be the device that "receiv[es] . . . program schedule information." However, the specification of the '595 Patent specifically explains that "[a] plurality of set-top boxes 70 coupled to the cable network 68 receive the television program signals and the program schedule information." '595 Pat. at 6:53-55; *see also id.* at 4:17-19 ("The set-top box receives program schedule information and software from a headend telecasting center."). Indeed, the specification details the reception of the schedule information, and specifically discloses that functionality as downloading, storing, and updating information in a type of data structure on the set-top box itself—not on a remote server. *Id.* at 6:56-7:9. Moreover, the patent examiner cited this limitation as being one of the reasons for allowance, and distinguished the amended claims over the prior art because the prior art reference did "not teach that the receiver receives a schedule for selecting a TV program for watching and selecting on the received program schedule [a] TV program for recording." Lisson Decl. Ex. 12 (Notice of Allowability, Nov. 27, 2013) at 3. As with the other terms, Rovi's attempts to capture systems in which the program schedule information is received by a remote server are contrary to the intrinsic record and must be rejected.

III.   U.S. PATENT NO. 8,755,666 (THE '666 PATENT)

Rovi's '666 Patent discloses a technique that allows a user to access an IPG on a remote device to select a program for recording. The program selection is communicated from the remote device to a local IPG that is typically at a user's home. *See, e.g.*, '666 Pat. at 2:62-3:38. The '666 Patent has virtually the same disclosure as three patents that Rovi has asserted in the ITC and asserts in the companion case No. 1:16-cv-09826 currently stayed in this Court: U.S.

Patent Nos. 8,006,263, 8,578,413, and 8,046,801 (the "ITC Remote Access Patents"). But whereas the claims asserted in the ITC use straightforward language, such as "program listings" and "television programs" (*see, e.g.*, Lisson Decl. Ex. 13 ('263 Patent) at 28:27-63), the claims in the '666 Patent are written in an obfuscatory manner, rendering them impossible to understand with any amount of certainty. Claim 1 of the '666 Patent is the shortest independent claim and boasts 589 words,[6] including such incomprehensible terms as "each of the second plurality of identifiers of content corresponding to respective ones of a fourth plurality of sequences of video frames of the third plurality of sequences of video frames," which Rovi insists has a "plain and ordinary meaning." Rovi Br. at 15.

In an attempt to bring some modicum of clarity to the '666 Patent claims, Defendants have proposed constructions for 12 terms that Rovi has refused to construe. But even with these constructions, the claims as a whole remain incomprehensible and indefinite.

In addition, there are six terms that the parties agree need to be construed. At the heart of the disputes lies a fundamental difference between the disclosed invention of the '666 Patent and the accused systems: while the accused systems enable a subscriber to schedule a recording remotely from, for example, a smartphone, they do not have a "local interactive program guide" that receives the program selection from the remote device. To try to cover Defendants' substantially different systems, Rovi removes all meaning from terms such as "local," and refuses to acknowledge or explain what a "guide" is.

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[6] For comparison, the *longest* claim in the '263 Patent (claim 1) is 275 words. *See* Lisson Decl. Ex. 13 ('263 Patent) at 28:27-63. More generally, a recent study found that the majority of independent patent claims are under 200 words, while claims comprising more than 400 words were such statistical outliers as not even to be counted. *See* Lisson Decl. Ex. 14 (USPTO Economic Working Paper) at 35-36; *see also id.* at 7 n.34.

A.   The '666 Claims Are Indefinite

1.   The Claims, as a Whole, Are Indefinite (Term 1)

The '666 Patent issued in 2014, as the final patent in a string of related applications

dating back to 1998. '666 Pat. at p. 1 & 1:7-17. The marathon prosecution of the family resulted

in the issuance of 91 claims in the related ITC Remote Access Patents. Not satisfied with those

claims, and their relatively understandable language, applicants filed the '666 Patent application

in the 15th year of prosecution. *Id.* at p. 1. The '666 claims, while purportedly directed to the

same "interactive television guide with remote access" as the related patents, *see* '666 Pat. at

Abstract, were written in language that can only be described as incomprehensible. Rather than

the common-sense language used in the 91 previously issued claims, such as "program listings"

and "selection identifies a television program for recording," the '666 Patent claims have terms

such as "content of the first plurality of sequences of video frames" (Term 4), "first plurality of

identifiers of content" (Term 5), and "each of the first plurality of identifiers of content

corresponding to respective ones of a second plurality of sequences of video frames of the first

plurality of sequences of video frames" (Term 6).

Under 35 U.S.C. § 112, a claim is invalid for indefiniteness if, when read in light of the

specification and prosecution history, it "fail[s] to inform, with reasonable certainty, those skilled

in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct.

2120, 2124 (2014). The claims of the '666 Patent certainly fail the *Nautilus* test.[7] It is next to

impossible to follow the convoluted steps recited in these claims given the meaningless language

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[7] *Nautilus* tightened the standard for definiteness and expressly overturned the previous
"insolubly ambiguous" standard. *Nautilus*, 134 S. Ct. at 2124. While the '666 Patent formally
issued on June 17, 2014—approximately two weeks after *Nautilus* was decided—the Issue
Notification was dated May 28, 2014, indicating that the patent office approved the claims under
the less exacting, and now inapplicable, pre-*Nautilus* standard. *See* Lisson Decl. Ex. 15 ('666
File History excerpt) at 1.

Rovi chose to use in them. Indeed, Rovi does not even attempt to explain the claims, vaguely stating that "[t]he '666 Patent addresses a specific set of methods and/or features that innovate how users can remotely record programing [sic] on a local device." Rovi Br. at 3. The mysterious "innovations" and "specific" methods and/or features are never again addressed.

Claims are most often indefinite because a specific term cannot be reliably construed. But the Federal Circuit has explained that focusing on an individual claim term in this manner is simply a helpful tool in analyzing the question at the heart of the indefiniteness inquiry: do the "*claims* . . . fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Cox Commc'ns, Inc. v. Sprint Commc'n Co. LP*, 838 F.3d 1224, 1231-32 (Fed. Cir. 2016) (citing *Nautilus*, 134 S. Ct. at 2129). The claims of the '666 Patent are indefinite and invalid because there is no way to explain or understand them with reasonable certainty.

2.   Rovi Refuses to Explain 12 Terms (Terms 2-7, 10-13, 16, and 18)

Defendants have proposed constructions for 12 terms to try to shed light on at least some aspects of the '666 Patent claims. For example, as far as Defendants are able to determine, "information corresponding to a first plurality of sequences of video frames" (Term 2) seems to be referring to program listing information describing a first set of programs. '666 Pat. at 7:32-33. Similarly, "sequences of video frames" (Term 3) seems to mean a "program." *Id.* at 2:62-3:19. And "content of the first plurality of sequences of video frames" (Term 4) seems to mean program listings describing the first set of programs. *Id*.

Rather than explaining, in any way, what these terms mean, Rovi devotes a single page in its brief to an argument that these terms need not be construed because Defendants have not shown that "an actual and fundamental dispute exists." Rovi Br. at 16. Rovi is incorrect. There is an actual dispute because Rovi has refused to agree to Defendants' constructions. Without support or explanation, Rovi merely asserts that "Defendants' proposed constructions only

makes [sic] these terms more difficult to understand and may confuse the jury."[8] *Id.* However, a

comparison of any of these 12 terms with the construction proposed by Defendants reveals that

the trier of fact would be less confused by Defendants' construction. For example, it is easier to

understand "program" than "sequences of video frames" (Term 3) and easier to understand

"program listings describing the first set of programs" than "content of the first plurality of

sequences of video frames" (Term 4). Rovi either disagrees that these terms mean what

Defendants propose, or else Rovi wishes to prevent the trier of fact from understanding the terms

at all. Either way, the terms should be construed as Defendants propose.

3.   "Formatted Based on a Characteristic of the Display Device" (Term 19)

This term cannot be understood with reasonable certainty because there is no explanation

or support anywhere in the intrinsic record for this concept. The only support Rovi cites within

the intrinsic record is the claim language itself. Rovi Br. at 10. Rovi also relies upon the opinion

of Dr. Shamos, who speculates that the formatting could relate to "screen size, potential

resolution, etc." but cites to nothing in the intrinsic record to suggest that these are the

"characteristics" related to this claim term. *See id.* & Ex. G at ¶ 12. Without some teaching or

support in the intrinsic record as to the meaning of this term, it does not "inform, with reasonable

certainty, those skilled in the art about the scope of the invention." *Nautilus*, 134 S. Ct. at 2124.

B.   "Local Interactive Program Guide" Terms

1.   The Fundamental Difference Between the Disclosed System and the Accused System

The system disclosed in the specification of the '666 Patent is illustrated at a high level in

Fig. 1, and includes a main facility 12 that includes a "source" of data, such as program listings,

used to populate both "local" and "remote" IPGs. '666 Pat. at Fig. 1, 2:62-3:9, 7:19-43. The

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[8] Defendants dispute that Rovi is entitled to present this case to a jury. *See* ECF No. 190 at 2.

local IPG is implemented on user television equipment 17, and the remote IPG on a remote program guide access device 24. *Id.* The user television equipment can be a set-top box connected to a television and a recording device. *Id.* at 2:65-67, 9:51-58, 10:44-51. The remote IPG is described as being implemented on a mobile device. *Id.* at 12:34-40. In certain embodiments, guide functions are split between a local IPG at the user location and a server away from the user location at a central facility. *Id.* at 8:54-9:5.

A user may use the remote IPG to select a program for recording by the local IPG. *Id.* at 20:32-38, 25:52-59, 27:13-20. The remote IPG then sends a communication to the local IPG to record the program. *Id.* at 20:38-43, 27:20-27. While the full scope of the claims of the '666 Patent cannot be reasonably understood due to their obfuscatory language, certain aspects are evident: the claims all require the "local interactive program guide," "mobile device" and "remote access interactive program guide" disclosed in the specification, as well as transmission of a "user selection" from the mobile device "to the local interactive program guide." *Id.* at 40:10, 40:24-25, 40:28, 41:8-10, 41:56-57, 42:20, 42:40-41, 43:4, 43:17-18, 44:11, 44:27-28.

As discussed above, in the accused Legacy systems, the guide application runs on the set-top box, whereas in the newer X1 system, the guide application runs on the XRE server in the cloud. Importantly, in both the Legacy and X1 systems, any remote recording selection made by a user, for example using an application on a smartphone, is not communicated to the guide that creates the display in the user home. There are entirely different systems in the cloud, known as the DVR scheduler (X1) and Flux (Legacy), which receive remote recording requests and cause recordings to be made based on those requests. The DVR scheduler and Flux do not run on the set-top box (where the Legacy local guide runs) or on the XRE server (which contains the X1

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guide). Thus, in all of the accused systems, when a remote recording request is made, there is no transmission of a program selection to a "local interactive program guide."

Two central themes of Rovi's claim construction strategy are (1) to avoid shedding any light on the meaning of "guide" and (2) to interpret "local" so that it can cover any Comcast device, anywhere in the United States. Indeed, at the ITC hearing on the ITC Remote Access patents, Rovi's expert—the same Dr. Shamos upon whom Rovi relies here—took the position that essentially Comcast's entire system can be viewed as a "local" guide, including servers that do not provide guide functionality and are located at facilities scattered across the United States. *See* Lisson Decl. Ex. 16 (ITC Hearing Transcript excerpt, Dec. 14, 2016) at 220:3-13. Defendants' constructions are aimed at identifying what a "guide" actually is and clarifying the difference between the "local" and "remote" guides.

2.   "Local Interactive Program Guide [Equipment]" (Terms 8-9)

Comparing the proposed constructions of "local [IPG]" (Term 9) reveals that the only difference is at the beginning: Rovi defines it as a "guide that allows user navigation . . ." whereas Defendants propose an "application at a user location that allows user navigation . . . ."[9] Thus, the only issue to be resolved for this term (and related Term 8) is whether a local IPG should be construed by repeating the word "guide" from the term to be construed, or whether it is (1) "an application" and (2) "at a user location."

First, defining a "guide" as a "guide," as Rovi proposes, fails to provide any clarity as to what a "guide" actually is. Rovi took full advantage of this lack of clarity in its infringement positions in the ITC regarding the same term by asserting that Comcast's "entire system,"

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[9] Rovi makes numerous errors in its transcription of Defendants' constructions of Terms 8-9 in the chart that appears on pages 5-6 of its brief, and these errors are reflected throughout Rovi's analysis of the terms. Rovi Br. at 5-8. For example, the phrase "inside a user's home," which Rovi represents in its brief as appearing in Defendants' constructions, *id.* at 5, does not in fact appear in those constructions. *See* Joint Chart at Term Nos. 8-9.

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including thousands of different servers scattered across the United States and providing

different functionalities, comprises a "local guide." Lisson Decl. Ex. 16 (ITC Hearing Transcript

excerpt, Dec. 14, 2016) at 220:3-13. Providing clarity on the meaning of "guide" knocks out the

wobbly foundation on which Rovi's infringement case is built, as Comcast's entire system

cannot reasonably be considered a "local guide."

Defendants' proposed construction provides clarity by defining a local IPG as "an

application" that performs certain recited functions (the functions are the same in both

constructions and thus are not in dispute), which is consistent with the understanding of a person

of ordinary skill in the art. It is also consistent with the way another court has construed the term

"interactive program guide" in another case involving Rovi. *United Video Props.*, 2012 WL

2370318, at *13. Rovi's brief does not explain why the IPG of the claims is not an application.

Instead, Rovi focuses its argument on the "local" issue and recasts the dispute as a determination

as to whether these terms "are each limited so that all portions of the interactive program guide

must be an application that exists and executes solely, entirely, and only inside a user's home (as

Defendants' [sic] contend), or whether portions of the interactive program guide may—as the

patents expressly disclose—exist outside the user's home (as Rovi contends)." Rovi Br. at 6.

This is a straw-man argument that does not represent Defendants' position.

Defendants have never disputed that the specification discloses embodiments where the

local guide works with a server at a central location. Figure 2d of the '666 Patent, on which

Rovi relies, *see* Rovi Br. at 6, discloses a "program guide server 25" located at a central location,

away from the user location, and "user television equipment 22," which implements the local

portion of the guide. *See* '666 Pat. at 7:45-57, 8:54-9:5. But Rovi argues that these components,

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which are nowhere near each other, are both "local." This defies logic and is inconsistent with

every use of the word "local" in the specification, only one of which Rovi addresses.

Rovi cites to the '666 Patent at 15:11-17 to argue that the applicant "[e]xercis[ed]

lexicography" to define "local" to be both the system in the user's home and a central location

miles away from the user. Rovi Br. at 6. But that portion of the specification only states that a

"'local' interactive television program guide" is "implemented on interactive television program

guide equipment 17." '666 Pat. at 15:11-17. It does not specify where within "equipment 17"

the local guide portion is implemented. Equipment 17 plainly includes both "television

distribution facility (e.g., cable system headend, satellite system, etc.) 16" and "user television

equipment 22" (which is located in a user's home). *Id.* at Figs. 2a-d, 4:25-30, 4:54-5:11. Thus,

the only portion of the specification relied upon by Rovi says nothing about which component of

equipment 17 is properly referred to as "local" and does not support Rovi's position.[10]

Rovi's focus on this one sentence from the specification also ignores the other portions of

the specification that make it clear that a "local" guide is one that is implemented on the user

television equipment, not at a central location. In particular, "local" is used consistently

throughout the specification to refer to the location of the user equipment at the user location.

See, e.g., '666 Pat. at 8:11-12 ("[I]t may not be necessary to store data *locally* at user television

equipment 22."), 9:23-26 ("[P]rogram guide server may, for example, update a *local* program

guide client running on user television equipment 22 . . . ."), 9:51-54 ("Each user has user

television equipment 22 for displaying the television program listings information and other

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[10] The Initial Determination in Rovi's ITC action rejected Rovi's argument that the patent
applicant exercised lexicography to create a special meaning of "local." Lisson Decl. Ex. 11
(Initial Determination excerpts) at 185-87. However, applying the ordinary meaning of local, the
Initial Determination, incorrectly in Comcast's view, concluded that local does not connote
location. *Id.* at 185. For the reasons discussed herein, Comcast believes that "local" and
"remote" only make sense in terms of the location of the software of the guide.

program guide data using a *local* interactive television program guide."), 26:35-36

("Programming may be locked *locally* by a user via user television equipment 22 . . . .")

(emphases added). In addition, the specification specifically distinguishes between functions of

the "local guide" and functions performed at the headend 16, away from the user. *See id.* at

21:49-51 ("Ordering a pay-per-view through the *local* guide as opposed to directly from

television distribution facility 16 . . . ." (emphasis added)). If the "local guide" included

distribution facility 16, as Rovi asserts, this disclosure would be nonsensical.[11]

Finally, the file histories also make it clear that "local" refers to the location of the user

equipment, not a central location such as a cable headend. In responding to a rejection based on

a prior art reference referred to as "Blake" in a related application featuring the same "local

interactive television program guide" term, applicants argued that the claims were different from

Blake's disclosure of a guide on a central processing system that was separate and apart from the

television equipment within a user's home. Lisson Decl. Ex. 17 ('263 File History excerpt) at 8

("[T]he user may select a program for recording over a remote access link by a local interactive

television program guide implemented on interactive television program guide equipment."); *see*

also Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1333 (Fed. Cir. 2003) (citing cases and

holding that a definition asserted in the prosecution of a parent application can affect the same

term appearing in related applications). In another example, the applicants distinguished

between the "central processing system" of Blake and "local recording equipment" located at the

user site. Lisson Decl. Ex. 18 ('263 File History excerpt) at 12. And in another related

prosecution, the applicants argued that Blake did not feature recording by a "local" program

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[11] Rovi's suggestion that Defendants' construction reads out claim 2 of the '666 Patent is
incorrect. Rovi Br. at 8. Claim 2 simply requires that the local IPG "record[] the first sequence
of video frames at a television distribution facility." '666 Pat. at 41:17-19. It thus speaks to
where the video frames are recorded, not the location of the IPG which causes the recording.

guide because the equipment that receives the message from the remote guide was a "central

processing system" and thus not "local." Lisson Decl. Ex. 19 ('801 File History excerpt) at 8-9.

Thus, all of the intrinsic evidence supports the proposition that "local" carries its ordinary

meaning of "at a user location." In any event, even if the "local" IPG could be construed as

including remote aspects, it still must be limited to the application that performs the agreed guide

functions: "allow[ing] user navigation through and interaction with television listings and

[causing] display of program information on user television equipment based on user

commands." It cannot be the case that the "local interactive program guide" of the claims is

broad enough to include every component of Comcast's system, including those that have

nothing to do with those functions.

C.   Content Source Limitations (Terms 14, 15, and 17)

These three related terms center on the meaning of "content source." Defendants

properly apply the meaning of "content source" used in the specification, namely "any source of

content such as a website, a satellite transmission, a DVD, or a television channel." The

specification plainly shows the "source" of content as being at main facility 12. '666 Pat. at Fig.

1, 7:20-23. Rovi's construction confuses the structure used to communicate content to the

program guide (i.e., a "transmission link") with the source of that content. The source of the

content is not the transmission link on which the content travels. That would be like saying the

source of a new car is not the factory where it was made, or the dealer where it was purchased,

but the highway used to get it to the purchaser's home.

Rovi argues that Defendants improperly ignore the context of this term. Rovi Br. at 9.

To the contrary, the context of the claims indicate that the "plurality of sequences of video

frames" originate at the "content sources." *See, e.g.*, '666 Pat. at 40:50-52, 40:64-67, 42:13-16.

The "source" of these video frames (which appear to be programs) are various sources as

described in the specification, including "any suitable distribution facility (e.g., a cable system headend, a broadcast distribution facility, a satellite television distribution facility, or any other suitable type of television distribution facility)." *Id.* at 7:20-23, 7:51-55. As for Rovi's argument that plugging in Defendants' construction renders the claims "largely nonsensical," Rovi Br. at 9, Defendants agree that the claims are nonsensical for a variety of reasons. The fact that the claims recite that "video frames" are transmitted "over" a plurality of content sources as opposed to "from" a plurality of content sources, which would make more sense, is just one of a myriad of reasons why it is next to impossible to make any sense out of these claims. *See supra* Part III.A. It is not a reason to construe "content source," contrary to the specification, as a transmission link instead of an actual source of content.

IV.   U.S. PATENT NO. 9,172,987 (THE '987 PATENT)

The alleged "invention" of the '987 Patent is directed to updating and modifying the functionality of a program guide using a markup language document. *See* '987 Pat. at 1:63-67. The interactive program guide is implemented on user equipment, *see id.* at 2:5-7, and, according to the Summary of the Invention, its functionality may be "modified by downloading markup language documents without user intervention and without modifying the code of the application," *id.* at 2:41-45. Rovi seeks to broaden its claims well beyond this disclosed "invention" by reading out clear limitations in the claims.

A.   "Markup Language" (Term 4)

As the '987 Patent's title states, the patent is directed to updating the functionality of a set-top box using a "markup language," which is a central term in every asserted claim. '987 Pat. at Title; *see also, e.g.*, *id.* at 10:66-11:7. Defendants' construction of this term comes from an express definition in the patent, which states that "[t]he markup language used may be any suitable markup language *or system of marking up, or tagging, a document (e.g., text file) so that*

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the document indicates user display screen layout and styling and program guide functionality."

Id. at 2:30-37 (emphasis added); *see also id.* at 3:42-51. This lexicography governs.

SkinMedica, 727 F.3d at 1195. Moreover, it is consistent with the dictionary definition of this

term at the time of the invention in 1998: "a system (as HTML or SGML) for marking or

tagging a document that indicates its logical structure (as paragraphs) and gives instructions for

its layout on the page for electronic transmission and display." Lisson Decl. Ex. 20 (1998

Merriam-Webster's Collegiate Dictionary) at 712.

Rovi and its expert claim that there is no basis for the inclusion of the word "system" in

Defendants' construction. Rovi Br. at 14 & Ex. G at ¶ 13. But the fact that a markup language is

a "'system' of marking up, or tagging, a document" comes right out of the specification's

definition. '987 Pat. at 2:30-37. And the contemporaneous dictionary definition contains the

very same language. Lisson Decl. Ex. 20 (1998 Merriam-Webster's Collegiate Dictionary) at

712. Similarly, the fact that the document that is tagged indicates user display screen layout and

styling and program guide functionality also comes directly out of the specification's definition.

'987 Pat. at 2:30-37. Indeed, the very extrinsic evidence that Rovi cites requires the assignment

of layout, style, and functionality. *See* Rovi Br. Ex. C ("The language specifies code for

formatting, both the layout and style, within a text file." (emphasis added)).

For its part, Rovi's proposed construction omits the concept of "marking up" or "tagging"

inherent in the term "markup language." Again, even the documents Rovi cites recognize that

markup languages require tagging. *See id.* Ex. C ("The [markup] language specifies code for

formatting, both the layout and style, within a text file. The code used to specify the formatting

are called *tags*." (emphasis added)); *id.* Ex. D ("A markup language is a computer language that

uses *tags* to define elements within a document." (emphasis added)). Omitting the tagging

requirement eliminates the distinction between markup languages and other non-markup computer programs that may also be used to format a file for printing or display, which directly contradicts the specification. *See, e.g.*, '987 Pat. at 7:31-35, 7:53-57.

Finally, even Rovi's evidence does not support its proposed construction. The two documents it cites are more supportive of Defendants' construction than Rovi's, and are from 2017 and 2011, respectively. And Rovi's expert provides a definition from 2002 in his discussion of the "markup language document" term, Rovi Br. Ex. G at ¶ 13, but Rovi neither proposes that construction nor explains how it applies to the '987 Patent.

B.   "Markup Language Document" and "Dynamic Hyper Text Markup Language ["DHTML"] Document" (Terms 3 and 5)

Rovi does not dispute any aspect of Defendants' proposed constructions for these terms apart from the requirement that a "document" must be "self-contained." Rovi Br. at 14. Defendants' proposal, however, is in line with the meaning of the term "document" to one of ordinary skill in the art at the time of the invention, which makes clear that a document is a self-contained file. *See* Lisson Decl. Ex. 21 (1999 Microsoft Computer Dictionary) at 149 (defining "document" as "[a]ny *self-contained* piece of work created with an application program and, if saved on disk, given a unique filename by which it can be retrieved.") (emphasis added). Rovi's argument to the contrary rests on sowing confusion between the markup language, which need not be self-contained, and the document, which must be.[12] Thus, while Rovi's brief quotes an extrinsic source that states DHTML "is not a self-contained *language*," that reference nowhere

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[12] Rovi seeks to confuse the term "markup language document" by inserting Defendants' construction of "markup language" in a manner that is misleading. Rovi Br. at 13. If one were to construe "markup language document" using Defendants' construction of markup language, one would replace "markup language code" such that the construction would read, "self-contained file tagged using a system for marking or tagging a document so that the document arranges user display screen layout and styling and indicates functionality."

implies that a document tagged *using* that language is not self-contained.[13] Rovi Br. at 14

(emphasis added). Finally, Rovi's argument that Defendants' construction reads out files that

contain both DHTML code and non-DHTML code must be rejected because there is no such

requirement in Defendants' proposal. *Id.* at 14-15. While the file is tagged using DHTML code

and it is self-contained, there is no implication that the file may not contain other code as well.

C.   "Preprogrammed on the Set-Top Box" (Term 2)

Rovi does not dispute that preprogrammed means "written in the code of the set-top

box," as recited in Defendants' construction. Rather, its only dispute relates to when the

preprogramming must occur. *See* Rovi Br. at 12-13.

Steps of a method will be construed to require a particular order if "as a matter of logic or

grammar, they must be performed in the order written." *Altiris, Inc. v. Symantec Corp.*, 318 F.3d

1363, 1369 (Fed. Cir. 2003); *see also Adrea, LLC v. Barnes & Noble, Inc.*, 2013 WL 6334489, at

*2 (S.D.N.Y. Dec. 2, 2013) (holding that "selecting" must occur before supplying the "selected

electronic book"). Here, claim 1 of the '987 Patent has five steps: (1) "generating for

display . . . a display item having a first program function . . . preprogrammed on the set-top

box"; (2) "receiving . . . a markup language document"; (3) "interpreting the markup language

document"; (4) "updating the set-top box based on the markup language document such that the

display item has the second program function"; and (5) "generating for display . . . the display

item having the second program function." '987 Pat. at 10:60-11:9.[14] The preprogramming

must occur before step (1), as otherwise a display item having the preprogrammed function could

not be generated. Rovi acknowledges that the preprogramming also happens before step (2),

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[13] Rovi's expert Dr. Shamos similarly asserts that no definition of "markup language" contains
the term "self-contained," but this says nothing about a "[DHTML/markup language] *document*."
Rovi Br. Ex. G at ¶ 13. A "document" is a self-contained file.

[14] Claim 9, the only other asserted independent claim, claims a system configured to perform
these same five steps. '987 Pat. at 11:44-12:15.

which recites receiving the markup language document. And step (2) must occur before steps

(3), (4), and (5), because those steps all require the markup language document received in step

(2). Accordingly, as a matter of logic and grammar, the preprogramming must occur before any

of the claimed steps.

D.   Program Function (Term 1)

Rovi's proposed construction of "program function" is essentially the same as

Defendants' apart from Defendants' clarification that a program function does not include screen

layout. The basis for this distinction is the '987 Patent's repeated reference to "screen layout" as

separate from "function" or "functionality." *See* '987 Pat. at Abstract (differentiating between

display elements and program guide functions), 7:14-18 (same); *see also id.* at 1:22-25

(differentiating between screen layout and "functionality"), 2:41-46 (same), 5:42-47 (same).

Notwithstanding Rovi's arguments, Rovi Br. at 12, there is no indication that "function" and

"functionality" are used differently in the specification such that one would include screen

layouts and the other would not. To the contrary, Figure 10 and the corresponding disclosure

show that the words are used in the same way to refer to functionality and not screen layouts.

'987 Pat. at Fig. 10 & 10:50-53 (describing selecting "[p]rogram guide functionality" and then

"perform[ing] the selected functions").

Rovi suggests that Claim 3 implies that screen layout may be a function. Rovi Br. at 12.

However, that claim recites changing a display element *in response to user input*, which is a

function of the guide. '987 Pat. at 11:12-14 ("the second program function causes a display of

the display item to change in response to a user input"). The claim does not recite changing

display elements by way of a markup language document. Likewise, the specification describes

replacing a layout as a "display element action" and not a "program guide function" or

"functionality." *Id.* at 7:59-63 ("Any suitable display element action may be assigned and

selected . . . .   For example, one action may be to replace a partial screen program listings grid . . . ."). Neither of these disclosures contradict the consistent distinction made throughout the '987 Patent between screen layouts and program guide "functionality" or "functions."

V.   THE VEVEO PATENTS

The three Veveo Patents address minor alleged improvements in the well-known concepts of "incremental search," which generally involves updating search results as a user "incrementally" enters search inputs, and ranking results by relevance.

All three Veveo Patents share several inventors, claim priority to provisional applications filed within an 11-month span in 2004 and 2005, and describe the same fundamental concepts using similar language. The patents describe what is to be searched for as "**items**" (or specific kinds of items, such as "content items" ('034) or "television content items" ('218)). *See* '218 Pat. at Abstract; '696 Pat. at Abstract; '034 Pat. at Abstract. One example of an "item" (also an example of a "content item" or a "television content item") could be particular audio/video content, e.g., a particular movie. *See, e.g.*, '218 Pat. at 3:46-50; '696 Pat. at 3:6-12; '034 Pat. at 6:66-67. Items are associated with "**descriptors**" such as movie titles or names of cast members. *See, e.g.*, '218 Pat. at 3:56-61; '696 Pat. at 3:6-12; '034 Pat. at 4:40-46. From the descriptors, one can derive "**terms**." '218 Pat. at 6:14-21; '696 Pat. at 6:5-14; '034 Pat. at 6:57-64. Thus, for example, the descriptor "Secret Discoveries of Ancient China" could give rise to terms such as "Discoveries of Ancient China," "Ancient China," and "China." *See, e.g.*, '218 Pat. at 6:15-21; '696 Pat. at 6:5-14; '034 Pat. at 6:57-64 & Fig. 6A. A term can include one or more "**words**." *See, e.g.*, '218 Pat. at Fig. 3 & 6:16-17; '696 Pat. at 3:7-8; '034 Pat. at 6:59-60. And any word can encompass one or more **prefixes**, as further discussed below. *See generally* Lisson Decl. Ex. 22 (demonstrative).

Building off of this foundation, the three patents claim specific search functionality:

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The '218 Patent claims incrementally identifying and selecting a television content item from a "relatively large set" of television content items using "reduced text input." '218 Pat. at 1:1-3, 9:58-60, 11:15-17. It teaches associating "television content items" with "descriptors," and receiving a "search entry [that] is a prefix substring of one or more words relating to the desired television content item." *Id.* at 2:43-59. For example, to locate a television content item associated with the actor "Brad Pitt," a user could enter prefixes of each word in that term (e.g., "B P," "BR P," "B PI," etc.). *See id.* at 5:26-34. The claims require that subsets of television content items are "rank[ed] and associate[d]" with prefix strings *before* any search is entered. *See id.* at 9:64-10:8; 11:25-28. And the claims further require entry of prefixes of two different words (e.g., a prefix of "Brad" and a prefix of "Pitt"). *See* ECF No. 281-1 at 13 (agreed construction of "a second descriptor prefix of a word entered by the user").

The '696 Patent incorporates by reference the specification of the '218 Patent and the provisional application that gave rise to the '034 Patent. *See* '696 Pat. at 5:40-49, 6:36-41. Its claims are similar to the '218 Patent's in many ways, but they add the use of "overloaded" keys, where "[t]he same key can be used to enter different characters." *Id.* at 1:44-48, 7:63-67. They also require a direct mapping between the content items and strings of overloaded keys. *Id.* at 7:63-67, 9:6-10. Thus, for example, an item of audio/video content for the cartoon "Tom and Jerry" is "directly mapped" to the string of keys of a keypad "5 86" (for "J TO"). *Id.* at 7:21-25.

The '034 Patent is also directed to "incremental search with reduced text entry," and further describes computing the relevance of results as a function of "character count." '034 Pat. at 1:1-6; *see id.* at 11:10-12, 12:60-62. The '034 Patent also describes organizing terms into "subspace categories" that have "relevance bias values." *Id.* at 10:43-46, 12:22-24; *see also id.* at 2:45-54; 7:28-41. Consequently, the ordering of search results may change depending on the

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subspace category that contains the term associated with a given item (e.g., "movie names,"

"movie casts," etc.). *See, e.g., id.* at Fig. 7 & 8:65-9:20. The purpose is to avoid a scenario

where popular results dominate and "occlude" other results, "despite the fact that the user has

been presented with the popular results, has elected not to select the popular results, and

continues to enter additional characters." *See* Lisson Decl. Ex. 23 ('034 File History excerpt) at

July 6, 2011 Amend., pp. 11-12; '034 Pat. at 8:12-29, 8:65-9:20.

A.   **Terms Related to "Items"**

1.   **"Content Items" ('696 Patent Term 1) and "Television Content Item"
            ('218 Patent Term 1 and '696 Patent Term 3)**

Rovi's May 1, 2017 preliminary response to a petition for *inter partes* review ("IPR") of

the '696 Patent advances the same construction for "content items" that Rovi advances here, and

avers that the construction specifically *excludes* "descriptors relating to the content item (such as

a title) [from] the definition of 'content item' itself." Lisson Decl. Ex. 24 (Patent Owner's

Prelim. Resp. to IPR2017-00715) at 10, 12. Defendants therefore understand Rovi's position,

and the import of its construction, to be that no limitation of the '696 Patent reciting "content

items" can be satisfied by *descriptors* relating to the content item (such as a title) as opposed to

the content items themselves. Indeed, Rovi has disclaimed any broader meaning. *See Aylus*

Networks v. Apple, 2017 WL 1946961, at *5 (Fed. Cir. May 11, 2017) (affirming prosecution

disclaimer based on statements in *inter partes* preliminary response). Thus, for example, the

limitations "selecting and presenting . . . subsets of content items" ('696 Pat.) and "selecting and

presenting . . . the subset of television content items" ('218 Pat.) cannot be met by the selection

and presentation of descriptors relating to the content items, such as their titles. Subject to this

understanding, Defendants do not object to Rovi's construction of "content items" as "units of

video/audio content," although Defendants believe that their construction would achieve the

same meaning.

The parties agree that "television content item" should be treated the same way in the '696 and '218 Patents. *Accord* Rovi Br. at 32. If the term "content item" takes Rovi's construction subject to the understanding set forth above for *both* the '218 and '696 Patents, then Comcast will not object to leaving "*television* content item" unconstrued in both patents.[15]

B.   "Prefix" Terms

1.   "Descriptor Prefix String" / "Descriptor Prefix" ('218 Patent Term 3)

Defendants' construction is fully consistent with the claims and the specification of the '218 Patent whereas Rovi's construction departs from that language with no justification. *See* '218 Pat. at 3:64-67, 9:66-10:2, 11:28-31.[16]

First, Rovi disputes that an entire word can be a "prefix" of that word. Rovi Br. at 21. But the specification expressly teaches that it can. *See* '218 Pat. at 6:58-59 ("For any integer 'k', let W^k denote the k-character prefix of word W. If k is greater than length of word W, W^k=W."). Thus, one prefix ("W^k") of a word ("W") can be the word itself ("W^k=W"). The specification also teaches that a "prefix string" may include *entire words*. *Id.* at 6:37-40 (identifying "gu of navarone" as a "prefix string" of the multi-word term "guns of navarone" (internal quotation marks omitted)). This is consistent with extrinsic definitions from the relevant field. *See* Lisson Decl. Ex. 26 (Compilers, 2d ed. 2017) at 119 (identifying "banana" as a prefix of "banana")

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[15] In the alternative, Defendants' construction should be adopted because it comes directly from the specifications. '218 Pat. at 3:46-50; '696 Pat. at 3:58-62; *id.* at 3:8-11. Rovi's objection to the "can be selected" language contradicts what it has said before the PTO and in prior litigation. *See* Lisson Decl. Ex. 24 (Patent Owner's Prelim. Resp. to IPR2017-00715) at 11 ("[T]he specification explains that, in the context of television systems, 'television content items' are 'audio/video content . . . that can be selected by a television viewer.'"); Lisson Decl. Ex. 25 (Veveo Cl. Constr. Br. in *Veveo v. Verizon* (S.D.N.Y. 2012)) at 9 (Veveo (now Rovi) asserting that the "can be selected" limitation applies for the '218 Patent).

[16] Because a single character can be a descriptor prefix, Defendants amend their construction as follows: "a variable length string containing one or more characters of a descriptive term running from the first character of a word of the descriptive term" (added text underlined).

(adapted from United States edition (2007)); *see also id.* Ex. 27 (Compilers, 1st ed. 1986) at 93.

Although Rovi suggests that language in the independent claims "define[s]" the descriptor prefix such that a "prefix" must contain less than all characters of a word, Rovi Br. at 21, the claim language Rovi cites limits the scope of the claim; it does not define the term. The relevant limitations read "wherein each descriptor prefix string contains less than all characters of the descriptive term" and "wherein [the first or second] descriptor prefix contains less than all characters of the word." '218 Pat. at 10:3-4, 10:12-14, 10:26-29. If Rovi were correct that "descriptor prefix string" and "descriptor prefix" must, by definition, contain less than all characters of a word, then this language would be superfluous. *See, e.g.*, *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1236-37 (Fed. Cir. 2016) ("Construing a claim term to include features of that term already recited in the claims would make those expressly recited features redundant."); *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005).[17]

Second, Rovi disputes that a "descriptor prefix [string]" must be a "prefix [string]" *of a descriptive term*. Rovi Br. at 21-22. But that improperly ignores the word "descriptor" entirely. *See, e.g.*, *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1363 (Fed. Cir. 1999) (rejecting proposed construction for "permanently affixed" that "would effectively expunge the term 'permanently' from the claim language" (internal quotation marks omitted)).

Finally, Rovi's construction fails to require consecutive or "running" characters and is unclear. It allows "HN" to be a prefix of "HANKS," for example, which has no support in the specification. It also requires a "character or characters which contain the leading character(s) . . . ," but it does not make sense for one character to "contain" another.

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[17] Rovi's approach is also barred by the prosecution history. Rovi added the "less than all characters" limitations specifically to overcome prior art. *See* Lisson Decl. Ex. 28 ('218 File History excerpt) at 8-10 (Jan. 15, 2009 Amend.). Construing "prefix" in the manner Rovi proposes would read out this narrowing amendment.

2.   "Prefixes" ('034 Patent Term 3)

Rovi's only substantive objection to Defendants' construction raises the same "entire word" issue addressed above, Rovi Br. at 26, and should be resolved the same way here. Rovi's effort to leave this term unconstrued should also be rejected because the parties dispute what the claimed "prefixes" are. *See O2 Micro*, 521 F.3d at 1361. The dictionary definition that Rovi advances as "plain and ordinary meaning" does not and cannot apply.[18] It is too narrow because even Rovi does not appear to restrict "prefixes" to "affixes" such as "un-" or "re-" that can be placed before one grammatically correct word to create another grammatically correct word. *Cf.* Rovi. Br. at 26. It is also too broad because it does not require the first or leading characters of a word. *See id.* (offering "re- in unrewarding" as an example prefix). Every example in the specification begins with the first or leading character of a word. *See, e.g.*, '034 Pat. at 6:6-10, 7:9-19, 8:3-6, 8:15-22, Figs. 8A-C. As noted above, definitions from *relevant* fields support Defendants' construction. *See supra* Part V.B.1.

C.   "Descriptive Terms" and "Term"

1.   "Descriptive Terms" ('218 Patent Term 4)

The '218 Patent states that "[e]ach of the television content items has one or more associated descriptors," '218 Pat. at 2:46-47 (summary of the invention), and "[t]he descriptors specify information about the content, which can include, e.g., information on titles, cast, directors, descriptions, and key words," *id.* at 3:58-61. "Descriptive terms" does not appear in the specification, but the phrase plainly refers to these "descriptors." *See id.* at 9:60-62 (claiming "television content items being associated with descriptive terms"). Defendants thus draw their

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[18] A portion of the definition that is obscured in Rovi's exhibit contains the "Field Label" "*gram.*" That label indicates that the definition is "restricted in use to one [or more] particular subject field[s]," here "grammar." *See* Lisson Decl. Ex. 29 (Random House Webster's Unabridged Dictionary (2d ed. 2001)) at xix, 1524. Thus, the definition does not apply here.

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construction directly from the specification, edited only for simplification.

Rovi objects to Defendants' inclusion of the specification's list of "such as" examples, but only criticizes it as "unnecessary and likely to confuse" the trier of fact. Rovi Br. at 22. Rovi does not and cannot argue that Defendants' construction is wrong, and the construction is necessary to put "descriptive terms" in the proper context as they relate to other claim terms such as "item," "word," and "prefix." *See generally* Lisson Decl. Ex. 22 (demonstrative).

2. "Term" ('034 Patent Term 5)

The '034 Patent expressly defines "term" and Defendants' construction tracks that language. *See* '034 Pat. at 2:65-67 ("[T]erm (i.e., an individual word or phrase that is a part of the title, keyword or any other portion of the meta-content) . . . ."); *see also id.* at 6:59-60 ("As used herein, a 'term' is a set of one or more ordered or unordered words."); *SkinMedica*, 727 F.3d at 1200 ("In a specification, a patentee's 'use of "*i.e.*" signals an intent to define the word to which it refers.'"). Again, Rovi states in conclusory fashion that Defendants' construction is "unnecessary and likely to confuse" the trier of fact, but Rovi has no argument that Defendants' construction is wrong. Rovi Br. at 29. As with "descriptive terms," construction is required here not only to comply with the patentee's lexicography, which must govern, but also to avoid confusion and ensure appropriate specificity and distinction as between "term," "word," "prefix," etc. *See SkinMedica*, 727 F.3d at 1195. *See generally* Lisson Decl. Ex. 22 (demonstrative).

D. "Relatively Large Set of [Selectable] Television Content Items" ('218 Patent Term 2) Is Indefinite

The '218 Patent claims contain the term of degree "relatively large." To avoid indefiniteness, "a person skilled in the art must know not only what falls inside the scope of the claim term, but also what falls outside of it." *Prolifiq Software Inc. v. Veeva Sys. Inc.*, 2014 WL 3870016, at *6 (N.D. Cal. Aug. 6, 2014); *accord Dow Chem. Co. v. Nova Chems. Corp. (Can.)*,

803 F.3d 620, 630 (Fed. Cir. 2015) ("The claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art." (quoting *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370-71 (Fed. Cir. 2014)). These claims provide no such boundaries. Declaration of Dr. John P.J. Kelly ("Kelly Decl.") ¶¶ 18-21.

Rovi contends that the boundaries can be discerned from the specification's description of a study of restaurant names. *See* Rovi Br. at 20 (citing '218 Pat. at 9:19-23). But examples are not objective standards. *See Prolifiq*, 2014 WL 3870016, at *6. That is particularly so here, where the cited example does not even involve "television content items," let alone the phrase "relatively large." In addition, the very paragraph from which Rovi takes its example undermines Rovi's construction. The 1,500 restaurant names is the smallest of three sets discussed in that paragraph, which suggests that 1,500 may be relatively small. And the disclosure describes a database of movie titles as containing "*only* 150,000 items," which suggests that even 150,000 may *not* be "relatively large." '218 Pat. at 9:11-31 (emphasis added).[19] Finally, even the patent owner cannot consistently delineate the boundaries of this claim language: Rovi (as Veveo) argued in 2012 that a "relatively large set of content items" in a related patent was a set "at least in the hundreds," seeking claim scope substantially different than its current "at least 1,500" proposal. *See* Lisson Decl. Ex. 25 (Veveo Cl. Constr. Br. in *Veveo v. Verizon* (S.D.N.Y. 2012)) at 14.[20] Because the claims "fail to inform, with reasonable

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[19] That is no surprise given the state of the art related to search at the time of filing. For example the Google web search database boasted in 2005 that it had over 8 *billion* pages. *See* Kelly Decl. ¶ 20; Lisson Decl. Ex. 30 (Google webpage) at 1. And Veveo itself by 2007 was touting an index of "several tens of millions" of video clips. *See* Kelly Decl. ¶ 21.

[20] Specifically, Veveo (now Rovi) was construing this phrase in U.S. Patent 7,536,384 (the '384 Patent), which is expressly related to the application that gave rise to the '218 Patent and incorporates it by reference. Lisson Decl. Ex. 31 ('384 Patent) at 1:17-28.

certainty, those skilled in the art about the scope of the invention," they are indefinite. *Nautilus*,

134 S. Ct. at 2124.

E.   **"The Second Overloaded Key Forming a String with the**
        <u>**First Overloaded Key" ('696 Patent Term 2)**</u>

The dispute here is whether the '696 Patent is limited to search queries in which a user

enters a string containing characters of at least two words rather than just one. It must be so

limited because the patent defines "the invention" as relating to multi-term queries. *Regents of*

Univ. of Minn., 717 F.3d at 936; *Honeywell*, 452 F.3d at 1318; *On Demand Mach. Corp.*, 442

F.3d at 1340.[21] First, in describing the "field of invention" the patent states that "[t]he present

invention" relates "to methods and systems for processing ambiguous, reduced text, *multi-term*

search queries." '696 Pat. at 1:27-31 (emphasis added). Second, the patent's abstract and

summary of invention explain that "[t]he search query *is* a prefix substring *of each of at least two*

words relating to the desired item." *Id.* at Abstract, 3:14-16 (emphasis added). Additionally,

every single example of a search query in the specification describes entry of a prefix substring

of at least two words. *See, e.g., id.* at Fig. 6 ("go mu, go cra etc."; "to vol, t volley etc."), Figs.

8B-C ("J TO"; "J TOM"), 6:43-45 ("T BOY"; "TO BOY"; "T B"; "T BO"), 7:6-33 ("J TO"; "J

TOM"). *See, e.g., Am. Calcar,* 651 F.3d at 1337. Finally, even the patent's title is "Method and

System For Processing Ambiguous, *Multiterm* Search Queries." '696 Pat. at 1:1-3 (emphasis

added).[22]

Rovi's objections to this limitation fail. First, claims 6 and 20 are not directed to adding

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[21] "Multi-term" queries are necessarily "multi-word" queries because terms contain words. *See, e.g.,* '696 Pat. at Fig. 5, 3:6-8, 5:62-6:14; *see also* Lisson Decl. Ex. 22 (demonstrative).
[22] Figure 8A discloses input of a single character ("J"), '696 Pat. at 7:8-12, but only as a partial step in the patent's system and method of processing *multi-term* search queries. *See id.* at Figs. 8B-C & 7:21-33 (describing input of "J TO," becoming "J TOM"). This is consistent with Defendants' construction, under which the "string" formed after the second entry of text includes characters of two separate words (in this example, the separate words "Jerry" and "Tom").

a limitation that the string can be a single word as Rovi suggests. Rather, along with adjacent claims 5 and 19, dependent claims 6 and 20 refer to "entry of a plurality of overloaded keys corresponding to one or more words in an [ordered/unordered] format." '696 Pat. at 8:35-42; 9:44-51. The purpose of these claims is to separately claim "an ordered format" and "an unordered format." Claims 6 and 20 are not limited to a string of a single word, which would be required for the inference Rovi seeks to draw. Moreover, any presumption that arises from claim differentiation is rebutted by the specification. *See, e.g.*, *Regents of the Univ. of Cal. v. Dakocytomation Cal., Inc.*, 517 F.3d 1364, 1375 (Fed. Cir. 2008) (construing independent claim to exclude repetitive sequences "notwithstanding . . . certain dependent claims that do not exclude them"); *Kruse Tech. P'ship v. Volkswagen AG*, 544 F. App'x 943, 950-52 (Fed. Cir. 2013) (rejecting argument that "independent claim *cannot exclude*" a limitation of a dependent claim).

Second, contrary to Rovi's argument, the specification does not teach "that the invention can be practiced wherein the input search query, comprised of a string of a first overloaded key and a second overloaded key, represents a single term prefix." Rovi Br. at 32. Instead, the passage that Rovi quotes speaks to "ordering criteria," '696 Pat. at 5:55-59, which are applied *before* the entry of any input search query, *see, e.g.*, *id.* at 8:4-7. Though the pre-applied "ordering criteria" can favor results when an input matches a "single term prefix," the patent is directed to, and only discloses, processing "multi-term search queries" where "[t]he search query comprises a prefix substring *of each of at least two words* relating to the desired item." '696 Pat. at 1:27-31, 3:14-16 (emphasis added).

Third, the claim language does not "preclude" Defendants' construction. Even if a third key press would be required for a string of at least two words, which Rovi does not establish,

Rovi ignores that this is a comprising claim. "In the patent claim context the term 'comprising' is well understood to mean 'including but not limited to.'" *CIAS, Inc. v. All. Gaming Corp.*, 504 F.3d 1356, 1360 (Fed. Cir. 2007). Thus, Defendants' construction would not be inconsistent with the claims, even if a user entered a third key.

F. "Subspace Categories" and "Relevance Bias Value" ('034 Patent Terms 1 and 2)

The claims of the '034 Patent require "the terms associated with the items being organized into searchable subspace categories, each subspace category having a relevance bias value." '034 Pat. at 10:43-46, 12:22-24.

1. "Subspace Categories" ('034 Patent Term 1)

Following the claim language, the parties agree that "subspace categories" are categories of "terms." *See* Rovi Br. at 23. Defendants' construction of "subspace categories" also explains by way of example what these "terms" are in the context of this patent and its claims, and it does so based on the clarifying disclosure of Figure 7. *See* '034 Pat. at Fig. 7; *see also id.* at Figs. 6A & 7:42-49. Contrary to Rovi's suggestion, Defendants' construction does not restrict the categories or terms to the listed examples, and the construction therefore does not exclude, for example, "personal search history" terms. *See* Rovi Br. at 24.[23] By contrast, Rovi seeks to avoid any explanation of what "terms" are (consistent with its effort to avoid construing "term"; *see supra* Part V.C.2.) and adds the confusing, and incorrect, concept of "subspace terms." "Subspace" in the claims does not modify "terms," and it is not clear what a "subspace term" is (i.e., how, if at all, Rovi's construction differs from "categories of terms").

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[23] Rovi's citation to pending IPR petitions does not help its cause, because claims in those proceedings are construed under the "broadest reasonable interpretation" standard that is different and broader than the standard applied by this Court. *See, e.g., Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144-46 (2016).

2.   "Relevance Bias Value" ('034 Patent Term 2)

The '034 Patent claims recite a "relevance bias value" assigned to each subspace

category. The specification explains that "ascribing a subspace-specific bias . . . causes certain

subspace results to have a higher relevance than other subspaces." '034 Pat. at 7:34-37; *see also*

id. at Fig. 7, 2:49-54. Defendants' construction of "relevance bias value" hews to this disclosure.

Rovi's construction, in contrast, is confusing and incorrect. For instance, what is "the

preference" that Rovi invokes and how does it relate to "relevance," if at all? And whose

"preference" is it? Rovi's construction is also too broad because, for example, it would appear to

include any "value" that is in part "based on" the "preference of one subspace."[24] The rank of a

returned result in a set of results could be a "value based on the preference of one subspace," for

example, but it is clearly not a "relevance bias value."

VI.   U.S. PATENT NO. 7,996,864 (THE '864 PATENT)

The '864 Patent is directed to the simple idea of dividing a television screen into three

areas and displaying program listings in one area, a currently broadcast television program in the

second area, and a particular form of program description in the third area, and then switching

the program description without changing the currently broadcast program. Here, the inventors

described "the invention" in terms of a layout in which "[t]he textual information is arranged on

the screen so none of it is covered by the moving images." '864 Pat. at 2:12-14.

A.   "Display[ing]" Television Program Listings and a
Detailed Program Description (Terms 3 and 5)

The specification makes clear that "the invention" excludes any screen configuration

where textual information is covered by the currently broadcast television program. For

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[24] Rovi's only substantive criticism of Defendants' construction fails. *See* Rovi Br. at 25.
Defendants are not asserting means-plus-function for this phrase, and its construction would not
trigger those requirements.

example, the first paragraph of the "Summary of the Invention" describes "the invention" (not just particular embodiments) and states that "[t]he textual information is arranged on the screen so none of it is covered by the moving images." *Id*. This statement serves to limit the claims. *Regents of Univ. of Minn.*, 717 F.3d at 936; *Honeywell*, 452 F.3d at 1318; *On Demand Mach. Corp.*, 442 F.3d at 1340. Further, the Abstract and specification consistently disclose that, "[a]ll the text of the background information lies outside the picture-in-picture window." '864 Pat. at Abstract; *see also id.* at 6:25-26 ("PIP window 42 does not cover up any of the information of background area 40."). Indeed, in every figure of a television screen in the patent, no text is covered by the television program. *See, e.g.*, '864 Pat. at Figs. 2-5, 16-18, 21, 33-35. Rovi cannot identify a single instance of video covering textual information, and the claims cannot be broadened beyond "the invention" to include such layouts. *See Am. Calcar*, 651 F.3d at 1337; *Honeywell*, 452 F.3d at 1318.

Rovi seeks to avoid the import of the specification's description of "the invention" by highlighting the unremarkable fact that claims 1 and 16 recite "nonoverlapping" areas while claims 6 and 10 do not. Rovi Br. at 34-35. But the two sets of claims simply cover two different ways of ensuring that the video does not cover the text. Whereas claims 1 and 16 require that the video and text not overlap at all, claims 6 and 10 permit overlap but, consistent with the disclosure of "the invention," must require that, in the event of overlap, the text lies on top of the video. Thus, for example, Figure 16 shows overlapping areas 42 and 44, but the textual information is arranged so that none of it is covered by the broadcast video. '864 Pat. at Fig. 16; *see also id.* at 10:40-46 (describing "overlaying [the guide and program description] information *over* the real time moving images of the current television program" (emphasis added)). While claims 6 and 10 may be slightly broader than claims 1 and 16 because they permit a type of

overlap, they still must be construed consistently with the specification's description of "the invention" such that, despite any such overlap, the text remains uncovered.[25]

B.   "Detailed Program Description" (Term 6) Is Indefinite

The claims require that "a detailed program description" be displayed in one area of the screen layout, which renders the claims indefinite. The meaning of the term "detailed program description" is not discussed anywhere in the '864 Patent specification or prosecution history. Instead, only "*brief* program description" is discussed. Specifically, the patent repeatedly teaches that a "brief program description" is displayed in area 44 of Figures 2-5. *E.g.*, '864 Pat. at 5:40-41, 5:49-51, 5:66-6:1, 6:2-3, 6:18-20. In each of these figures, area 44 shows the program title, a synopsis, the start time, and the length of the program. *Id*. at Figs. 2-5. Figure 5 further shows the program's genre. *Id*. at Fig. 5. Yet, despite the patent's express statements that Figures 2-5 display a "brief program description," Rovi argues that they are "illustrative" of a "detailed program description," which, according to Rovi, only requires some information in addition to the title.[26] Rovi Br. at 36-37. Rovi's position is untenable. The patent cannot "inform, with reasonable certainty," *Nautilus*, 134 S. Ct. at 2124, the meaning of "detailed" by consistently describing something as "brief." Simply put, there is no disclosure in the patent or prosecution history concerning the scope of "detailed program description" and no way for a

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[25] The doctrine of claim differentiation is inapplicable because claims 6 and 10 continue to have a distinct scope from claims 1 and 16 under Defendants' construction. *Starhome GmbH v. AT&T Mobility LLC*, 743 F.3d 849, 858 (Fed. Cir. 2014) (holding that claim differentiation does not apply where "[t]he claims differ in scope . . . and the district court's construction neither imports limitations from one claim to another nor renders any claims redundant").

[26] Furthermore, Rovi's proposed construction of "detailed program description" as simply requiring any "information in addition to the program title" cannot be correct. For example, showing the program title and just the start time would be a "detailed program description" under Rovi's construction yet would contain *less* information than what the patent describes as a "brief program description." '864 Pat. at 5:40-41, 5:49-51, 5:66-6:1, 6:2-3, 6:18-20, Figs 2-5.

person of skill in the art to know how much information must be displayed for the program

description to be "detailed" as opposed to not. *See* Bederson Decl. at ¶¶ 19-21.

Notably, whereas Rovi argues in this litigation that "'detailed program description' is

used with its plain and ordinary meaning," Rovi Br. at 36, it has simultaneously argued before

the Patent Trial and Appeal Board ("PTAB") that the term needs to be construed. Lisson Decl.

Ex. 32 (Patent Owner's Prelim. Resp. to IPR2017-00217) at 44. Specifically, Rovi argued that

Comcast's petition for IPR should be denied because Comcast failed to propose a construction

for this term and that such "failure to construe the term leaves the Board and Patent Owner

guessing as to what disclosures in the prior art would and would not satisfy this limitation." *Id.*

at 44-45 (emphasis added). Rovi cannot on the one hand argue that the term has a "plain and

ordinary meaning" to save the claims here, while on the other hand argue that it has been left

"guessing" before the PTAB as to the scope of the term for purposes of invalidity.[27]

C.   "Electronic Program Guide" and "Tuner" (Terms 1 and 2)

Rovi's arguments for "electronic program guide" and "tuner" largely track those for

similar terms in patents discussed above.

As in the '595 and '666 Patents, *see supra* Parts II.C, III.B.2, Rovi takes issue with

Defendants' proposal that an "electronic program guide" is an "application." Rovi Br. at 33-34.

However, the District of Delaware construed "electronic television program guide" (in addition

to the "interactive program guide" term discussed above) in patents asserted by Rovi's

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[27] Rovi's reference to Comcast's petition to suggest that it "took a completely different position on the alleged indefiniteness of the term" is misleading. Rovi Br. at 37 n.8. A petitioner in an IPR can only challenge the patentability of a claim based "on a ground that could be raised under section 102 or 103 and only on the basis of prior art." 35 U.S.C. § 311(b). Thus, Comcast could not have argued indefiniteness of any claim term before the PTAB. Further, Rovi omitted from its brief the language "[f]or this proceeding," which made clear that only for the purposes of the IPR was construction of "detailed program description" unnecessary. Lisson Decl. Ex. 33 (IPR Petition) at 9.

predecessor to be "an electronic application . . . ." *United Video Props.*, 2012 WL 2370318, at

*4-5, *13. And the Initial Determination construed "electronic program guide" in patents

asserted by Rovi against Comcast in the ITC as "a guide implemented by application software at

a user site." Lisson Decl. Ex. 11 (Initial Determination excerpts) at 41-42 . Moreover, the

specification of the '864 Patent itself indicates that an electronic program guide is an application.

Rovi's citation of the disclosure at 1:44-47 is inapposite because it describes "hard copy"

program guides, not *electronic* program guides. '864 Pat. at 1:47-48. *Electronic* program

guides, on the other hand, are described as storing the schedule of program listings "in an

electronic memory" and recalling the program listings "from memory." *Id.* at 1:48-54.

Moreover, the patent explains that a "viewer can move a cursor 48 vertically to highlight one of

the program listings displayed." *Id.* at 5:19-20; *see also id.* at 7:45-47, 11:1-40. To provide for

such functionality, the electronic program guide cannot simply be "something displayed on the

screen" as Rovi contends, Rovi Br. at 34, but must be an executed application.

Rovi's only disagreement with Defendants' construction of "tuner" with respect to the

'864 Patent appears to be whether it is an "electronic circuit." *Id.* But when discussing the '595

Patent, Rovi's own expert agrees that "[a] tuner is an electronic circuit . . . ." Rovi Br. Ex. G at

¶ 7. Although Rovi notes that "Figure 1 . . . shows a tuner as a box in [a] schematic block

diagram," Rovi Br. at 34, *everything* in Figure 1 is a box because the figure is a functional

diagram and does not purport to define the physical structures, *see* '864 Pat. at Fig. 1.

D.   "Substantially All of a Currently Broadcast Television Program" (Term 7)

Defendants' construction for this term is taken directly from statements made by the

patentee during the prosecution of a continuation application. *Jonsson v. Stanley Works*, 903

F.2d 812, 817-19 (Fed. Cir. 1990) (relying on patentee's statements during prosecution of a

related patent); *Omega Eng'g*, 334 F.3d at 1333. Specifically, during prosecution of Application

No. 11/064,219 (the '219 Application), which claims priority to, and shares the same title, specification, and inventors with, the '864 Patent, the Patent Office rejected the claims because "substantially" was "not defined" and "one of ordinary skill in the art would not be reasonably apprised of the scope of the invention." Lisson Decl. Ex. 34 ('219 Application File History excerpt) at 8 (internal quotation marks omitted). In response, the patentee expressly defined that term: "[T]he phrase 'substantially all of an image' refers to a displayed image that 'generally convenes most of the essential information of the television program.'" *Id.*

E.   "Plurality of [Television] Program Listings" (Term 4)

The specification is replete with teachings that the television program listings include scheduling information. *See, e.g.,* '864 Pat. at Abstract (stating that the invention is used to view "television program listings from a program schedule data base"), 2:20-24 (same), 2:53-57 (same), 12:18-23 ("[P]rogram schedule memory . . . can be accessed by microprocessor 24 when necessary to supply program schedule information . . . to compose the program listings . . . ."), 12:49-54. Rovi argues that requiring "schedule information" would be inconsistent with Figure 2. *See* Rovi Br. at 36. However, the disclosure accompanying Figure 2 makes clear that the program listings are displayed in area 46, which is the "program schedule area." '864 Pat. at 5:16-20. The listings must therefore contain "program schedule" information and Figure 2 depicts the "NOW Guide" such that program schedule area 46 lists the programs that are on "now" (at 6:16 pm). *Id.* at 8:16-18.

VII.   U.S. PATENT NO. 6,725,281 (THE '281 PATENT)

The '281 Patent generally discloses a system in which certain devices maintain a "state table" and are controlled by other devices that obtain the state table and subscribe to change notifications sent from the controlled device according to an "eventing model." '281 Pat. at 1:66-2:10. The '281 Patent specification includes a "Terminology" section in which a number of

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words and phrases are expressly "defined." *Id.* at 6:19-21 ("The detailed description that follows uses the *terminology defined below*." (emphasis added)). Defendants' constructions are all drawn from these express definitions, which must control. *SkinMedica*, 727 F.3d at 1195; *Astrazeneca AB v. Mut. Pharm. Co.*, 384 F.3d 1333, 1339 (Fed. Cir. 2004) (holding that "the inventors deliberately acted as their own lexicographers" where the specification stated that the disputed claim term was "*defined below*" (internal quotation mark omitted)).

Rovi repeatedly argues that Defendants are seeking to import limitations from the preferred Universal Plug and Play ("UPnP") embodiment into the claims. Rovi Br. at 40-44. It is certainly true that the only disclosed embodiment described in the specification uses the UPnP protocol developed by Microsoft, the original owner of the patent. *See, e.g.*, '281 Pat. at 4:7-11. However, the basis for Defendants' constructions is not simply that the only disclosed embodiment is UPnP, but that certain terms are expressly "defined" in the specification in accordance with that protocol. *See Astrazeneca*, 384 F.3d at 1339; *Phillips*, 415 F.3d at 1320-21 ("[T]he specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." (internal quotation marks omitted)).

A.   "User Control Point Module" (Term 4)

The '281 Patent expressly defines "User Control Point" as "[t]he set of modules that enable communication with a UPnP Controlled Device." '281 Pat. at 6:26-27; *see also id.* at 6:20-21. Thus, a "user control point module" is one module in such a set of modules, as Defendants' construction provides. The term must be construed as a module that enables communication with a UPnP Controlled Device not simply because UPnP is the only disclosed embodiment, but because "User Control Point" is expressly "defined" that way.

Rovi, on the other hand, ignores the patent's express definition of "User Control Point." Instead, it proposes a construction that it fails to support with any intrinsic (or extrinsic) evidence

and that impermissibly adds the concept of "facilitating communications," which is found

nowhere in the patent. Rovi Br. at 42-43.

B.   **"User Controller Device" / "Control Point Computing Devices" (Term 3)**

Defendants' construction reflects that, in each claim, the "user control point module" is

contained in a "user controller device" or a "control point computing device." *See, e.g.,* '281 Pat.

at Claim 1 (requiring "a user control point module in the user controller device"); Claim 20

(requiring "a user control point module in the control point computing device"). The

construction is therefore consistent with the claim language and the specification's definition of

"User Control Point." Rovi faults Defendants' proposal for not requiring that a controller

controls a controlled device, *see* Rovi. Br. at 42, but that criticism is misplaced because that

requirement is provided by other language in the claim, *see* '281 Pat. at Claim 1 (describing "a

user controller device having user input/output capability . . . to effect a change in the operational

state of the controlled computing device"), Claim 20 (describing "a control point computing

device . . . to effect remote operational control of the controlled computing device").

C.   **"Device Control Protocol" (Term 7)**

Defendants' construction of this term recites the patent's definition word for word: "[a]

complete set of UPnP protocols and schemas used to interact with a UPnP Controlled Device."

Id. at 7:30-32; *see also id.* at 6:20-21. Again, the term is limited to UPnP protocols, not merely

because that is what is repeatedly and exclusively used in the specification, but because the term

is expressly defined in terms of UPnP.

For its part, Rovi suggests that the "device control protocol" is used "in its plain and

ordinary manner," and that the specification's definition is only a "description" of the term

directed to UPnP. Rovi Br. at 45. But "device control protocol" does not have a plain and

ordinary meaning, and Rovi cannot ignore the fact that the term is expressly "defined"—not merely "described"—in the specification. '281 Pat. at 6:20-21.

D. "Eventing Model" (Term 6)

Rovi proposes plain and ordinary meaning for this claim term, yet (1) fails to explain what that meaning is, and (2) concedes that the majority of Defendants' proposal is correct apart from the phrase "at any time." Rovi Br. at 44-45. First, the claims require that a device operate "according to an eventing model" to perform certain functions. *See, e.g.*, '281 Pat. at 56:45-50. But "eventing model" does not have a plain and ordinary meaning. Thus, without construction, the fact-finder will have no way to know whether the device does or does not perform the functions according to such a model. Second, the phrase "any time" appears in the patent's definition of "eventing," which is part of the term "eventing model." '281 Pat. at 12:33-36. While Rovi argues that this definition by its own terms only applies in the context of UPnP, there is no explanation of how an "eventing model" is different for non-UPnP systems, and even the portions of the specification that Rovi cites support this requirement. Rovi Br. at 45. Rovi concedes that an eventing model must be able to synchronize state "upon any change to the controlled device's operational state" and must "distribute [] change notifications to any subscribing user controller device upon a change to the state table." *Id.* at 44 (citing '281 Pat. at 1:44-53, 2:10-24). Thus, consistent with Defendants' proposal, a device must be able to initiate a connection to send events at any time when the state table changes.

E. "Event" (Term 5)

Once again, Defendants' construction recites the patent's definition: "An unsolicited message generated by a Controlled Device and delivered to one or more User Control Points." '281 Pat. at 9:22-23. In order to suggest that the term is used in the patent in its plain and ordinary sense, Rovi points to a section discussing "Eventing Subsystem Terminology." *See*

Rovi Br. at 43 (citing '281 Pat. at 29:54, 30:1-2). However, the "Eventing Subsystem

Terminology" section does not purport to define the term "event," which is expressly "defined"

earlier in the patent. As a result, the "Eventing Subsystem Terminology" section is subject to the

express definitions that come before it. More specifically, it discloses the specific type of events

(as previously defined) used in that particular subsystem. Thus, "events" in general may be any

kind of "unsolicited message[s] generated by a Controlled Device and delivered to one or more

User Control Points." '281 Pat. at 9:22-23. The eventing subsystem involves more specific

types of such events, namely unsolicited messages that are "generated when a change in a

resource's state occurs."[28] *Id.* at 30:1-2.

> **F.** **"Controlled Computing Device" (Term 1)**

Defendants' construction of controlled computing device is based on the specification's

definition of "controlled device." '281 Pat. at 6:48-52. Rovi's proposal is much the same,

except that it adds that the controlled device is controlled by the user control point, and omits

that the controlled computing device must be a "computing" device. Rovi Br. at 39. First, the

control by the user control point is provided for in other claim language. *See* '281 Pat. at Claim

1 (describing "a user controller device having user input/output capability . . . to effect a change

in the operational state of the controlled computing device"), Claim 20 (describing "a control

point computing device . . . to effect remote operational control of the controlled computing

device"). Second, the omission of "computing" improperly reads out an express claim element

and cannot be correct.

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[28] Similarly, the definition of "user control point" in the "Eventing Subsystem Terminology" section is subject to the definition of "user control point" earlier in the patent. Thus, whereas a "user control point" is generally "[t]he set of modules that enable communication with a UPnP controlled device" and a module can be any "component of a device, software program, or system," in the Eventing Subsystem, a user control point is the piece of software that searches for UPnP controlled devices and controls them. '281 Pat. at 6:22-27, 29:55-56.

G.   "State Table Maintained by the Controlled Computing Device . . ." (Term 2)

Defendants' construction of this term derives from the specification's definition of

"Service State Table" and "Service." '281 Pat. at 8:33-34, 8:53-60. That is because the '281

Patent uses the term "Service State Table" interchangeably with "State Table." *Wasica Fin.*

GmbH v. Cont'l Auto. Sys., Inc., 853 F.3d 1272, 1282 (Fed. Cir. 2017) ("This drafting choice [of

using the words interchangeably] equates the two terms for claim construction purposes.");

Edwards LifeSciences LLC v. Cook Inc., 582 F.3d 1322, 1329 (Fed. Cir. 2009) ("The

interchangeable use of the two terms is akin to a definition equating the two."). For example,

Figure 5 shows a "Service State Table" and is described as "a block diagram illustrating device

state synchronization using *a state table* and eventing." '281 Pat. at Fig. 5, 2:62-63 (emphasis

added).

Rovi's construction, on the other hand, simply repeats the claim language while replacing

"an operational state of" with "a current state in" the controlled computing device. Rovi Br. at

40. This simply rewrites what the state table represents, but it does not explain or define what a

"state table" is (as opposed to something else that may represent a state of a device).

VIII.   SECTION 112(f) AND MIXED STATUTORY CLASSES

A.   Section 112(f)

35 U.S.C. § 112(f)[29] strikes a balance between allowing patentees to express a claim

limitation by reciting a function to be performed rather than a structure for performing that

function. It does so by restricting the scope of a limitation subject to § 112(f) to the structure,

materials, or acts described in the specification as corresponding to the claimed function.

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1347 (Fed. Cir. 2015). While there is a

presumption that § 112(f) applies when a limitation uses the word "means," § 112(f) also applies

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[29] Formerly 35 U.S.C. § 112 ¶ 6 in the pre-AIA version of the patent statute.

where a claim term fails to "recite sufficiently definite structure" or recites "function without reciting sufficient structure for performing that function." *Id.* at 1349. Where a claim contains a limitation subject to § 112(f), the claim is invalid as indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim. *Id.* at 1352. Simple recitation of a function performed by a general purpose computer is not sufficient. *See Aristocrat Techs. Austl. Pty. Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) ("In cases involving a computer-implemented invention . . . , this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor."); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008) (making clear that if "the only disclosed structure is a general purpose computer . . . [and] the specification fails to disclose an algorithm for performing the claimed function," the claim is invalid).

All of the patents in this case issued before the Federal Circuit's *Williamson* decision, which rejected the long-standing "heavy presumption" that § 112(f) does not apply to a claim in the absence of the word "means" and articulated the current standard. Under *Williamson*, many of the asserted claims fail to recite sufficient structure and must be construed pursuant to § 112(f). They thus are either invalid for failing to disclose such structure in the specification or are limited to the specific structure or algorithm that is disclosed, as the case may be.

1.   "Interactive Program Guide Configured to . . ." ('595 Patent Term 7)

The limitation "user equipment having an interactive television program guide implemented thereon, . . . said interactive television program guide configured to . . ." in claim 9 of the '595 Patent must be interpreted pursuant to § 112(f) because it does not connote sufficient structure for performing the claimed list of functions. All that the term recites is an interactive television program guide, which is not a structure.

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Because the claim is subject to § 112(f), it is limited to the structure disclosed in the specification, but the '595 Patent's specification fails to disclose any structure that corresponds to the recited function. The specification does not discuss any code, algorithm, or any other structure for the guide, and none of the flow charts in the figures show an algorithm for controlling two tuners in the way described in the claims. In fact, the specification expressly states that a two-tuner system is "not shown." '595 Pat. at 8:20-23. Accordingly, the claim is indefinite.

2. "Set-Top Box with Control Circuitry Configured to . . ." ('987 Patent Term 9)

Claim 9 of the '987 Patent simply recites "control circuitry configured to" perform the function recited in the rest of the claim. "Control circuitry" does not connote any definite structure for performing any of the claimed steps. Indeed, "control circuity" is no different than reciting a general purpose computer, which is not sufficient. *Aristocrat Techs. Austl. Pty. Ltd.*, 521 F.3d at 1333; *Net MoneyIN, Inc.*, 545 F.3d at 1367. This element must therefore be construed pursuant to § 112(f).

The claim is indefinite because the specification of the '987 is silent as to any structure that performs the functionality ascribed to the "control circuitry" of claim 9, apart from the fact that control circuitry exists. *See, e.g.*, '987 Pat. at 5:30-33 ("control circuitry 42 of user television equipment 22 receives the program guide data, programming, and markup language documents from television distribution facility"), 5:40-42 ("[c]ontrol circuitry 42 may be configured to interpret the markup language documents and to generate program guide display screens for display on monitor 45"), 5:60-62 ("[t]o watch television, the user instructs control circuitry 42 to display a desired television channel on monitor 45."). This purely functional description of the control circuitry fails to supply the structure necessary to save the claim. *See*

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Advanced Ground Info. Sys., Inc. v. Life360, Inc., 830 F.3d 1341, 1347-48 (Fed. Cir. 2016)

(affirming district court finding that § 112(f) applied where claim merely recited "abstract

elements 'for' causing actions, . . . or elements 'that can' perform functions").

3. "Processor for Performing . . ." ('034 Patent Term 4)[30]

The "processor for performing . . ." limitation is subject to 35 U.S.C. § 112(f) because the

recited functions are *not* those typically found in an off-the-shelf processor. *See GoDaddy.com,*

LLC v. RPost Commc'ns Ltd., 2016 WL 212676, at *56 (D. Az. Jan. 19, 2016); *Velocity Patent*

LLC, 2016 WL 5234110, at *6 (N.D. Ill. Sept. 21, 2016).[31] Off-the-shelf processors execute

instructions that typically either perform basic arithmetic or logic functions, read or write data to

or from memory, or control the program flow (i.e., decide which instruction to execute next).

See Kelly Decl. ¶¶ 23-24. But the recited incremental-find functions require more. *See id.*

¶¶ 23-25. The only disclosed structure that comes close to describing how to perform these

functions is the algorithmic structure described in the specification at 8:36-9:25.[32] This element

is therefore at least limited to that algorithmic structure, as Comcast proposes, or it is indefinite.[33]

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[30] The term to be construed appears in the '034 Patent at 12:32-67. The joint claim chart
previously submitted inadvertently referred to a shorter passage.
[31] Rovi's "processor" cases do not apply because they address only the "nonce word" analysis
and do not apply the second part of the *Williamson* test. *See GoDaddy.com, LLC*, 2016 WL
212676, at *54-56 (holding that, even though a person of ordinary skill in the art would
understand "processor" to connote structure, the term "processor for associating" did not connote
sufficient structure and thus failed the second part of the *Williamson* test where the claimed
functions were not "functions typically found in a commercially available off-the-shelf
processor" and instead would "require[] additional programming of the processor to
implement"); *Velocity Patent LLC v. Mercedes-Benz USA, LLC*, 2016 WL 5234110, at *6 (N.D.
Ill. Sept. 21, 2016) (same).
[32] It is not clear how (if at all) the algorithm found at 8:36-9:25 teaches ranking "being based on
the assigned popularity values of the items and being based on the retrieved relevance values for
the one or more user-entered prefixes matching terms associated with the items" nor ranking
using relevance values "adjusted in response to the count of the number of text characters
received from the user." Moreover, to the extent algorithmic structure may be found at 6:6-42
and Figure 4, that algorithm does not appear to teach ranking using relevance values "adjusted in

B.   Mixed Statutory Classes ('595 Patent Terms 5 and 8)

The "wherein a set-top box includes two tuners" clause in claims 1 and 17 of the '595

Patent render those claims indefinite because they introduce new categories of invention into the

claims. The Federal Circuit has made clear that a single claim covering two categories of

invention, such as a system and a method of using that system, is "not sufficiently precise to

provide . . . an accurate determination of the 'metes and bounds' of protection involved." *IPXL*

Holdings, L.L.C. v. Amazon.com, Inc., 430 F.3d 1377, 1384 (Fed. Cir. 2005). This is because it

is unclear "whether infringement . . . occurs when one creates [the] system" or "whether

infringement occurs when the user actually uses the [system]." *Id.* Claim 17 is a "Beauregard

claim," meaning that it was specifically drafted to cover "a computer readable medium (e.g., a

disk, hard drive, or other data storage device) containing program instructions for a computer to

perform a particular process." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373

(Fed. Cir. 2011). Indeed, the claim recites: "A non-transitory machine-readable medium . . . ,

said machine-readable medium having machine program logic recorded thereon for . . . ." But

despite its Beauregard format, the wherein clause introduces a tangible, non-program logic

limitation, i.e., "a set-top box [with] two tuners." A set-top box is a physical structure that

cannot possibly be recorded onto a machine-readable medium. As such, the claim is nonsensical

and it is unclear whether infringement occurs when one creates the machine-readable medium or

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response to the count of the number of text characters received from the user" nor ranking using
"relevance bias values of the subspace categories."

[33] Defendants withdraw their assertion that the "microprocessor" terms of the '864 Patent (Terms
8 and 9) are subject to § 112(f) and indefinite. While "microprocessor" may be subject to
§ 112(f) in the same way as "processor," the asserted claims of the '864 Patent do not recite
atypical functions.

whether infringement requires a user to somehow combine the medium with a set-top box having two tuners.[34]

Claim 1 of the '595 Patent raises a similar problem. It recites a method requiring the steps of "receiving . . . storing . . . causing a display . . . receiving . . . receiving . . . [and] directing." However, the claim does not end there. After reciting the steps of the method, the claim recites a structural limitation, i.e., "wherein a set-top box includes two tuners." Notably, the term "set-top box" does not appear anywhere in the preamble or in any of the claimed steps. It is first introduced in the wherein clause as a standalone structure and does not simply define the environment for practicing the method. Thus, it is unclear whether infringement occurs when one practices each step of the method or whether one must also create a set-top box having two tuners. *H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1336 (Fed. Cir. 2014) (holding claims indefinite for mixing apparatus claim and method claim); *In re Katz*, 639 F.3d 1303, 1318 (Fed. Cir. 2011) (same); *Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339 (Fed. Cir. 2011) (same); *IPXL*, 430 F.3d at 1384 (holding claims indefinite for mixing system claim and method claim); *Aventis Pharma S.A. v. Hospira, Inc.*, 743 F. Supp. 2d 305, 330 (D. Del. 2010) (holding claims indefinite for mixing composition claim with method claim).

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[34] Rovi may argue that a machine-readable medium is a physical structure and the wherein clause therefore does not introduce a different category of invention. But the claim is specifically drawn to a machine-readable medium and a set-top box indisputably cannot be recorded onto it. Thus, regardless of which categories of invention are claimed, a person of ordinary skill would not be informed, with any reasonable certainty, how to practice the claim. *Nautilus*, 134 S. Ct. at 2124. In any event, the Federal Circuit has treated Beauregard claims as method claims as opposed to other types of claims such as apparatus or system claims. *Digital-Vending Servs. Int'l, LLC v. Univ. of Phoenix, Inc.*, 672 F.3d 1270, 1275 n.1 (Fed. Cir. 2012) (holding the Beauregard claims at issue "should be treated as method claims to avoid exalting form over substance"); *CLS Bank Int'l v. Alice Corp. Pty*, 717 F.3d 1269, 1288 (Fed. Cir. 2013) (holding Beauregard claims at issue "equivalent to the methods they recite for § 101 purposes"); *see also E. Coast Sheet Metal Fabricating Corp. v. Autodesk, Inc.*, 2015 WL 226084, at *2 (D.N.H. Jan. 15, 2015) ("The court harbors a strong suspicion that [Beauregard] claims are actually method claims rather than apparatus claims.").

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document has

been served on all counsel of record via the Court's ECF system on June 2, 2017.

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